

at least first and second conductive films formed on an insulating surface wherein the first and second conductive films are separated from each other;

a pair of first semiconductor films of one conductivity type formed over the first and second conductive films;

a second semiconductor film formed on and extending between the pair of first semiconductor films;

an insulating film including a gate insulating film formed on the second semiconductor film; and

a third conductive film including a gate electrode formed on the insulating film,

wherein each of the first and second conductive films and the pair of first semiconductor films has a tapered outer edge.

31. The semiconductor device according to claim 30 wherein the edge of the first semiconductor films has a tapered angle of 5-45°.

32. The semiconductor device according to claim 30 further comprising a barrier metal layer interposed between the first and second conductive films and the pair of first semiconductor films, respectively, wherein said barrier metal layer comprises a material selected from the group consisting of Ti, Ta, TiN and TaN.

33. The semiconductor device according to claim 30 wherein said third conductive film has a tapered outer edge.

34. A semiconductor device comprising:

at least first and second conductive films formed on an insulating surface wherein the first and second conductive films are separated from each other;

a pair of first semiconductor films of one conductivity type formed over the first and second conductive films;

a second semiconductor film formed on and extending between the pair of first semiconductor films;

an insulating film including a gate insulating film formed on the second semiconductor film; and

a third conductive film including a gate electrode formed on the insulating film,

wherein each of the pair of first semiconductor films and the second semiconductor film has a tapered outer edge and the pair of first semiconductor films extend beyond side edges of the second semiconductor film.

35. The semiconductor device according to claim 34 wherein the edge of the first semiconductor films has a tapered angle of 5-45°.

36. The semiconductor device according to claim 34 further comprising a barrier metal layer interposed between the first and second conductive films and the pair of first semiconductor films, respectively, wherein said barrier metal layer comprises a material selected from the group consisting of Ti, Ta, TiN and TaN.

37. A semiconductor device comprising:

at least first and second conductive films formed on an insulating surface wherein the first and second conductive films are separated from each other;

a pair of first semiconductor films of one conductivity type formed over the first and second conductive films;

a second semiconductor film formed on and extending between the pair of first semiconductor films;

an insulating film including a gate insulating film formed on the second semiconductor film; and

a third conductive film including a gate electrode formed on the insulating film,

wherein each of the second semiconductor film and the third conductive film has a tapered outer edge and the second semiconductor film extends beyond side edges of the third conductive film.

38. The semiconductor device according to claim 37 wherein the edge of the third conductive film has a tapered angle of 15-45°.

39. The semiconductor device according to claim 37 further comprising a barrier metal layer interposed between the first and second conductive films and the pair of first semiconductor films, respectively, wherein said barrier metal layer comprises a material selected from the group consisting of Ti, Ta, TiN and TaN.

40. A semiconductor device comprising:

at least first and second conductive films formed on an insulating surface wherein the first and second conductive films are separated from each other;

a pair of barrier metal layers formed on the first and second conductive films wherein said barrier metal layers have a tapered outer edge;

a pair of first semiconductor films of one conductivity type formed on the pair of barrier metal layers, respectively, wherein each of the first semiconductor films has a tapered outer edge;

a second semiconductor film formed on and extending between the pair of first semiconductor films wherein the second semiconductor film has a tapered outer edge;

an insulating film including a gate insulating film formed on the second semiconductor film; and

a third conductive film including a gate electrode formed on the insulating film wherein said third conductive film has a tapered outer edge,

wherein said insulating film extends beyond outer edge of the third conductive film, and said second semiconductor film extends beyond outer edge of the insulating film.

41. The semiconductor device according to claim 40 wherein the edge of the third conductive film has a tapered angle of 15-45°.

Cent  
B3

Part  
C6

*Wm B*  
42. The semiconductor device according to claim 40, wherein said pair of barrier metal layers comprises a material selected from the group consisting of Ti, Ta, TiN and TaN.--